

**SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY**

**SAULT STE. MARIE, ONTARIO**



Sault College

**COURSE OUTLINE**

**COURSE TITLE:** Mathematics

**CODE NO. :** MTH 151-3                      **SEMESTER:** Fall

**PROGRAM:** Mechanical Techniques – Machine Shop

**AUTHOR:** Mathematics Department

**DATE:** August 2008                      **PREVIOUS OUTLINE DATED:** June 2007

**APPROVED:** “Brian Punch”

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	<b>CHAIR</b>	<b>DATE</b>
<b>TOTAL CREDITS:</b>	<b>3</b>	
<b>PREREQUISITE(S):</b>	None	
<b>HOURS/WEEK:</b>	3	

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*For additional information, please contact Brian Punch, Chair*  
*School of the Natural Environment, Technology, and Skilled Trades*  
*(705) 759-2554, Ext. 2681*

**COURSE DESCRIPTION:****I.**

In this course, emphasis will be placed on teaching mathematics at a level that will help the student in Aviation Machining. Some theoretical concepts and topics in algebra, geometry and trigonometry will be covered. These concepts and topics will be reinforced by the use of practical problems to make the current topic relevant to the students' needs.

**II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:**

Upon successful completion of this course, the student will demonstrate the ability to:

## Topic 1

1. Solve problems involving whole numbers including prime and composite numbers
2. Calculate problems involving common fractions including finding lowest common denominator
3. Convert decimal fractions to common fractions and the reverse process.
4. How to Measure and include its error factors
5. The SI metric and the Imperial system

## Topic 2

1. Use direct and inverse proportion
2. Use variation
3. Use percent in dimensioning

Topic 3 : Geometry

1. Solve practical problems to find the sides and angles of right triangles
2. Solve practical problems to find the areas of a triangle or quadrilateral
3. Solve problems involving the circumference, diameter, area or tangent to a circle

## Topic 4:

1. Compute surface areas and volumes of spheres, cylinders, cones and other solid figures

**Topic 5: Right angle trigonometry**

1. **Define the trigonometric functions**
2. **Solve the missing parts of a right angle triangle using trigonometric functions**

**III. LEARNING ACTIVITIES**

<b>TOPIC NUMBER</b>	<b>TOPIC DESCRIPTION</b>	<b>REFERENCE CHAPTER ASSIGNMENTS</b>
<b>1.0</b>	<b>Whole Numbers, Fractions, &amp; Decimals</b>	<b>ALL WORK BASED ON HANDOUTS</b>
1.1	Whole Numbers	
1.2	Fractions	
1.3	Decimals	
<b>2.0</b>	<b>Ratio, Proportion, and Percent</b>	
<b>3.0</b>	<b>Plane Geometry</b>	
<b>4.0</b>	<b>Solid Geometry</b>	
<b>5.0</b>	<b>Right Angle Trigonometry</b>	

**IV. REQUIRED RESOURCES/TEXTS/MATERIALS:**

1. Calculator: (Recommended) EL531W. *The use of some kinds of calculators, cell phones, and other electronic devices may be restricted during tests.*

**V. EVALUATION PROCESS/GRADING SYSTEM:**

There will be three tests. Each test will be 1/3 of the final grade.

The first test will occur after topics 1 and 2. The second test after topics 3 and 4. The final test will be after topic 5

The following semester grades will be assigned to students in postsecondary courses:

<b>Grade</b>	<b>Definition</b>	<b>Grade Point Equivalent</b>
A+	90 – 100%	4.00
A	80 – 89%	3.00
B	70 - 79%	2.00
C	60 - 69%	1.00
D	50 – 59%	0.00
F (Fail)	49% and below	
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field /clinical placement or non-graded subject area.	
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.	
X	A temporary grade limited to situations	

	with extenuating circumstances giving a student additional time to complete the requirements for a course.
NR	Grade not reported to Registrar's office.
W	Student has withdrawn from the course without academic penalty.

## VI. SPECIAL NOTES:

### Special Needs:

If you are a student with special needs (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Special Needs office. Visit Room E1101 or call Extension 703 so that support services can be arranged for you.

### Retention of Course Outlines:

It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

### Communication:

The College considers **WebCT/LMS** as the primary channel of communication for each course. Regularly checking this software platform is critical as it will keep you directly connected with faculty and current course information. Success in this course may be directly related to your willingness to take advantage of the **Learning Management System** communication tool.

### Plagiarism:

Students should refer to the definition of “academic dishonesty” in **Student Code of Conduct**. Students who engage in academic dishonesty will receive an automatic failure for that submission and/or such other penalty, up to and including expulsion from the course/program, as may be decided by the professor/dean. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

Course Outline Amendments:

The professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

Substitute course information is available in the Registrar's office.

**VII. PRIOR LEARNING ASSESSMENT:**

Students who wish to apply for advance credit transfer (advanced standing) should obtain an Application for Advance Credit from the program coordinator (or the course coordinator regarding a general education transfer request) or academic assistant. Students will be required to provide an unofficial transcript and course outline related to the course in question.

Credit for prior learning will also be given upon successful completion of a challenge exam or portfolio.